

EXTERNAL EAR CANAL VOICE DETECTION

Abstract

5 Ear-level full duplex audio communication systems each include one or two
ear attachment devices, such as in-the-ear (ITE) or behind-the-ear (BTE) devices, that
wirelessly communicates to a remote device such as a computer, a personal digital
assistant (PDA), a cellular phone, a walkie talkie, or a language translator. When used
as a hearing aid, such a system allows a hearing impaired individual to communicate
10 with or through the remote device, such as to talk to another person through a cellular
phone. When being used as an ear piece wirelessly extended from the remote device,
such system allows an individual with normal hearing to privately communicate with
or through the remote device without the need of holding the device or wearing any
device wired to the remote device. Each ear attachment device includes a voice
15 operated exchange (VOX), housed within the device, to preserve energy and hence,
maximize the period between battery replacement or recharges. The VOX also gates
various sounds detected by the system to control possible echoes and ringing.

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